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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Fong Shi

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OSTRAGER CHONG FLAHERTY & BROITMAN PC  
250 PARK AVENUE, SUITE 825  
NEW YORK, NY 10177

EXAMINER

CAVALLARI, DANIEL J

ART UNIT

PAPER NUMBER

2836

DATE MAILED: 06/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/615,705	Applicant(s) SHI, FONG	
	Examiner Daniel J. Cavallari	Art Unit 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2006.
- 2a) ☒ This action is FINAL.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-18, 26 and 27 is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-8 and 19-25 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

The examiner acknowledges a submission of the amendment filed on 4/13/2006. The changes to the abstract & specification, replacement drawings, and amendments to claims 1-27 are accepted.

### ***Response to Arguments***

Applicant's arguments, see pages 3-4, filed 4/13/2006, with respect to the previously made objection to the abstract, drawings, specification, and claims are persuasive and the previously made objections have been withdrawn in view of the corresponding amendments.

Applicant's arguments filed 4/13/2006 in regard to claims 1, 5, 9, & 19 have been fully considered but they are not persuasive.

The applicant argues that Steigerwald et al. (hereinafter referred to as Steigewald) fails to teach a regulator and points out the component 22 (See Figure 2) is an output rectifier of switching device (17).

The examiner agrees that component 22 of Steigerwald is a rectifier however this component is easily recognized by one in the art, as the applicant pointed out, to be the output of component (17) which provides pulse width modulation of the input voltage to transformer (20), regulating the input power. Therefore, Steigerwald does in fact teach a voltage regulator as one of ordinary skill in the art would recognize from Figures 2 & 3.

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The applicant further argues Toy does not teach a "non-feedback loop" system however the examiner points the applicant to figure 3 of Toy in which the power distribution is shown as purely linear in nature without any feedback provided in the system. Furthermore, the specification does not disclose or suggest feedback within the system in which to regulate the voltage in the system.

### ***Drawings***

The drawings are objected to for the following reasons:

Although the drawings have been amended to correct the deficiencies stated in the last office action, the current drawings are informal and appear hand drawn. The correction to the drawings should be done such that previous reference numbers are erased from the drawing rather than crossed out, which makes it confusing to read. Labels should also be neatly drawn or typed.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5-8, & 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Steigerwald et al. (US 5,073,848)

Steigerwald et al. teaches:

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In regard to Claims 1, 5,

- A redundant power distribution system (See Abstract) with a plurality of primary distribution lines, read on by the three branches connected to source (12) (See Figure 2) comprising a plurality of regulators, read on by regulators (17) (See Figure 2 & Column 2, Lines 28-52).
- A plurality of isolation transformers (20) coupled to the regulators (17) (See Figure 2 & Column 2, Lines 47-52)
- At least one redundant device read on by converter control means (18), coupled to the isolation transformers (20) where M of the N elements are required so that the system operate properly (See Abstract & Figure 2)
- The plurality of regulators and isolation transformers having a non-feedback looped configuration across the isolation transformers (See Figure 2).
- A plurality of source inputs, read on by the three lines connected to each branch (See Figure 2) and a common output, read on by OR gates (46, 47, & 48).

In regard to claim 2, 6, & 7

- At least one of the redundant regulators (17) comprises distribution switches, read on by semiconductor switches for voltage regulation (See Figure 2 & Column 2, Lines 28-52).

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In regard to Claim 3

- The regulators (17) being primary regulators as they are on the primary side of the transformers (20) (See Figure 2).

In regard to Claim 8

- First and second regulators (17) with a first and second output, respectfully, all outputs of regulators (17) in each bulk power supply (10) being coupled together by line (24).

In regard to Claims 15 & 16

- A first redundant regulator (22) coupled to a first isolation transformer (20), referring to the top most bulk power supply (10), and the regulator (22) also coupled to a second isolation transformer (20), referring to the middle bulk power supply (10), via the power supply line (24)
- A second redundant regulator (22), referring to the middle bulk power supply (10) coupled to a first and second isolation transformer by the same means as described above (See Figure 1)
- A third redundant regulator circuit (22), referring to the bottom most bulk power supply (10) coupled to the first and second isolation transformers via the power supply line (24) (See Figure 1)

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Claims 19-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Toy (US 6,191,500).

Toy teaches:

In regard to Claim 19

- A plurality of sources (110A, 110B, 320A-C) (See Figure 3)
- A plurality of converters having a plurality of outputs comprising of regulators and an isolation transformer read on by the UPS which each comprise of an isolation transformer (1030) and regulators (See Figure 10 & Column 11, Lines 57-67) forming a non-feedback looped configuration in which M of the N converter output are required to be operable for the system to operate (See Column 1, Line 58 to Column 2, Line 52).
- A distribution switch, read on by switchgear (370) coupled to the plurality of converter outputs.

In regard to Claims 20 & 21

- A first, second, and third distribution switch, read on by breakers (810A, 810B, & 810C) each coupled to there corresponding converter as well as all other converters through bus (850) (See Figure 8 and Column 14, Lines 1-11)

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In regard to Claims 22, 23, & 24

- An input distribution switch, read on by switchgear (330) comprising a first and second distribution switch, read on by breakers (420A & 420B) each electrically coupled to the sources through bus (450) and coupled to the converters through the switch boards (340 & 350) (See Figure 4 & Column 6, Lines 39-64).

In regard to Claim 25

- Wherein at least one input distribution switch (420) is on (closed), power is supplied to a converter (See figures 3 & 4)

***Allowable Subject Matter***

Claims 9-18, 26, & 27 are allowed.

Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In regard to Claims 4, 9, & 26

- Although prior art teaches redundant power distribution (See Steigerwald et al. US 5,073,848) and power regulation on both the primary and secondary side of a transformer (See Rohl US 4,646,219), prior art fails to teach redundant power

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distribution with power regulation on both the primary and secondary side of a transformer connected in a non-feedback looped configuration.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Kuruma (JP 06261536 A)
- Hann et al. (US 2004/0061380 A1)
- Dinh et al. (US 6,650,556 B2)

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- Steigerwald et al. (US 2004/0032239 A1)
- Gmuer (US 3,614,599)


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Cavallari whose telephone number is (571)272-8541. The examiner can normally be reached on Monday-Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571)272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel Cavallari

June 6, 2006

  
BRIAN SIRCUS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800